Stryker Program Update Consolidated Questions

1. Do you see an opportunity to convert hull structure to lighter weight materials, or should focus strictly be on hang-on structures.

   A: S-Mod is investigating possible lightweight materials for hull structures as there will be significant modifications to the lower hull to improve the systems base survivability, however, cost will be a factor in system decisions. Given this is a re-manufacture program; the cost/benefit analysis will play an important role in making a change to the structure.

   A: Tech Mgt: The current Stryker Modernization effort is a remanufacturing program. Thus, replacing the entire base hull (steel) structure is probably a cost-prohibitive option. The S-Mod program is pursuing an optimized lower hull shape as part of the base structure. For armor vendors, the focus should continue to be on appliqué armor solutions for the front, rear, sides, and top of the vehicle.

2. Where can industry get a view of the requirements for modernization of Stryker?

   A: S-Mod . Draft System Performance Specification will be released prior to Milestone B (4th Qtr 2011).

3. What are the key upgrades (enablers) for the modernization effort? (S-MOD)

   A: S-Mod. The key enablers for the S-MOD program are: 1) Power generation (30 kw @ 28Vdc), 2) Increased Suspension/driveline capability (60,000 lb GCW), 3) Data Management (modular open system architecture, data and video network), 4) Survivability (improved IED protection, scalable protection packages).

4. There was an RFP and requirement for 120 kw ISG/ Alternator last year. We understand that the final solution was an ~ 10KW additional alternator. How could the original RBQT be so reduced?

   A: S-MOD. We have requested information for a 120 kw ISG/alternator. The power architecture trade study is ongoing, but the requirement is to have 30 kw at 28 Vdc available for mission equipment and “hotel” loads across a range of operating conditions . Additional electrical loads may be imposed by main cooling fan, air conditioning compressor and circulation fans. Under one potential power architecture, a 120 kw capacity ISG/alternator is required to meet performance under low speed operation.

5. Last year Blast seat samples were procured by GD VIA an RFP process. Production blast seats were also being procured and installed, what is the status/ strategy for Stryker Blast Seats? (This was still briefed as an area of interest in Today’s discussion.)

A: Tech Mgmt

6. Please answer via website as well… How can a component supplier learn which configuration Stryker vehicle will eventually receive our component? (It is very difficult at our level of supply to determine how many components and when they may be required.. thank you!)

A: Tech Mgmt. One must understand that the government doesn't own the drawing package rights. The obligation of the prime contractor to the customer is that the vehicle configuration attains a "performance" level dictated by criteria in the performance specification. Thus, the contract permits the prime contractor to utilize products from any vendor just as long as there is no degradation in performance. Also, there are guidelines that the prime contractor try to maintain component commonality not only within the Stryker fleet, but in other Department of the Army vehicle programs. Simply, a component supplier will learn which components are destined for the Stryker program with the receipt of a purchase order from the prime contractor.

7. Will there be any survivability enhancement with special consideration to fire suppression systems (AFES)/ crew, engine, tire, and fuel tank?

A: Tech Mgmt:

1. At this point, there has not been a request and there are no plans to alter the crew and engine fire suppression systems. These systems were successfully subjected to a series of fire suppression, crew safety, RAM and Live Fire tests.

2. For the fuel tanks, we are monitoring the TARDEC efforts to develop threat resistant (near inert) fuel cells. To date, there have been a minimal number of fuel tank incidents and the User has not requested any alterations to the current fuel tanks. Therefore, PM-SBCT is not funding any design changes to the current fuel tanks.

3. In the deployed areas, there have been a number of incidents that have involved tire fires. The Stryker Tire Fire Kit was recently fielded to respond to these fire threats. The Tire Fire Kit was subjected to multiple threat initiated fire trials at APG. The Tire Fire Kit was fully effective at extinguishing these test fires. Also, the Tire Fire Kit was subjected to extensive RAM testing prior to being fielded. There were positive reports from units deployed to the OIF theater. We monitor the utility in theatre of all our kits and recently have received a few negative comments on the Tire Ffire Kit. We have asked for field reports and any documentation that could help identify possible system limitations. GDLS has been funded to strengthen the Tire Fire Kit attachment hardware. If required, pending information from OEF, further improvements may be implemented.

8. If 50% weight savings can be offered over a current solution (Tire Fire) would that be of interest to fulfill weight management? What is the preferred method for vendors to provide this information?

A: Tech Mgmt, Contracts

9. Will MGS be used to field new technologies or kits prior to S-MOD and SRAT II what are some examples?

A: S-Mod. Besides some of the Stryker common kits like the Hull Protection Kit and the Driver's Enhancement Kit, the MGS will provide an Air Conditioning Kit as well as a Color Camera Kit for the MGS Commander.

10. What is the scoring criteria associated with Best Value Selection?

A: Contracts

11. In FY 15 and beyond, how many vehicles will be modernized per year? Yes, there will be budget constraints, but best guess?

A: Production, Contracts, Budget

12. With Emphasis on "survivability"- please comment on thoughts on "Drivers" Ballistic Windshield.

A: Tech Mgmt: The Carapace Armor StrykShield (Drivers' Ballistic Windshield) provides Small Arms Fire (SAF) and blast protection for vehicle drivers operating with the hatch in an open or detent position. The driver has a higher level of protection operating with the hatch in the closed position which he or she can still do with this kit installed. StrykShield provides increased situational awareness when compared to the standard vision blocks.

A: COL Schumitz: No requirement for capability. Currently just a good idea. Will not procure more until there is a requirement.

A: Catherine Doherty: Bde Cmd decision on whether they have windshields. 2/25 not interested, 2SCR possibly interested. TCM SBCT is conducting an assessment to determine if this should be a fleet wide capability and/or an enduring requirement. TCM SBCT is preparing a memorandum for record supporting procuring additional assets for training prior to deployment.

13. The Stryker Modernization effort shows both air conditioning and advanced cooling as two separate technologies please describe.

A: S-Mod. We will be integrating an improved air conditioning system (20 kw) for crew comfort/survivability. S-MOD will also be employing advanced cooling strategies for electronic components to meet environmental performance.

A: Tech Mgmt: Air conditioning for the current vehicle is achieved using two separate standard automotive style A/C systems per vehicle. These systems are currently in use on all STRYKER FoV except for NBCRV and MGS. Advanced cooling is being addressed under the S-Mod program.

14. Could you explain why SRATs is critical to success of MGS? (as was mentioned earlier this morning)

A: S-Mod/MGS . The SRAT Add-On Armor Kit addresses the shortcoming in the existing Stryker MGS SLAT Armor Kit which will provide the system an increased protection capability. The testing planned for the MGS and the SRAT armor will provide Senior Army and OSD Leaders with the information they require to make a decision on continued MGS production.

15. Has the boresight been selected for MGS? If yes- what system? If no- when will the cecq visitation be open for competition?

A: Joe Godell: M26A3 has been within Army for a while in M1. Has not changed much. Same one being issued on MGS.

16. How strong are you beholden to the CECOM/ CERDEC community for C4ISR/ digitization equipment specification? Is Stryker able to independently choose new C4ISR digitization solutions, or how will CECOM/ C3T/ IEW&S become involved in the procurements?

A: C4ISR: For contractor furnished C4ISR equipment on the Stryker family of vehicles, we are not beholden. PM SBCT provides its prime contractor with specifications and requirements, per our requirements documents and the prime, via a requirements based contract, designs, develops, integrates, fields and sustains the materiel solution.
For Government furnished C4ISR equipment (for example, the SINCGARs radio) PM Stryker, through memorandums of agreement, integrates the materiel solution provided by an ASA(ALT) programs of record on the Stryker family of vehicles. We collaborate and synchronize with the PEO C3T, IEW and EIS and CE LCMC's SEC and CERDEC to validate that materiel solutions, whether CFE or GFE, are as common as possible across the Army inventory. This insures we don't redesign or redevelop something that has already been developed and is readily available as a materiel solution.

We have worked with CECOM/C3T/CERDEC/IEW&S as needed for procurement if it is a solution that they have on contract, We have worked with CECOM and CERDEC on antenna studies to ensure the best materiel solution is selected, along with the best location(s) specifically in the efforts of the VRC 103/104 integration on the CV, RV and FSV.

17. How will you make the Future Improvement Input documents, such as the CDDS, ONSs, ets., available to industry? What schedule are you holding to for these documents?

A: S-Mod. The draft CDD is currently going thru the JCIDS process and is expected to be approved 4th Qtr FY10. The CDD and ONSs are TRADOC documents and their distribution will be controlled by TRADOC. System and sub-system specifications will be used to define for Industry the performance requirements for the next generation Stryker vehicle. As provided in Question Number 2, draft specifications will be released to Industry for comments prior to our Milestone Decision in 2011.

18. Will Stryker defer C4ISR and vehicle electronics modernization until after victory is matured.

A: C4ISR: No – PM Stryker will move forward with any C4ISR improvements that are directly tied to a requirement. VICTORY is a joint effort among PEOs to standardize intra vehicle network architectures. We will monitor the VICTORY effort closely in conjunction with other system engineering and programmatic processes we plan to conduct as the modernization effort moves forward.

19. What is the status/ need of the FSEP "sherrif" variant?

A: Fleet Mgmt

20. How is testing in theater progressing?

A: LTC Roberson; the only assessment I'm tracking from theater is the Stryker Shield concept and Interim Stryker Recovery System evaluation in response to two Operational Needs Statements. We're currently working with the Tradoc Capability Manager to ascertain whether or not this is a enduring requirement or a theater specific requirement.

21. Have the blast attenuating seat under consideration for installation in the Stryker been tested by the Army Research laboratory (ARL) to determine their base-line capability to attenuate short duration but very intense acceleration impulses?

A: Tech Mgmt, PA&T

22. MGS Status?

A: LTC Lamb: Working to FRP, ECO validation testing currently with MEP and Survivability
A: COL Schumitz: MGS has an evolving test strategy. SRAT a key element

23. Schedule and abilities in the [S-Mod] demo vehicle?

A: LTC Lamb/Matt Weicher: Concepts relied on from Industry Day last summer (Pulled up Stryker mod chart). Pulling examples from trade study to prove concept. That data will help give final solution.
A: Time periods: demo vehicle, facility vehicle, prototypes, production vehicle (brought up timeline chart). Demo vehicle will be operational summer 2010

24. [What technologies will S-Mod concentrate on?] (question evolved from discussion of S- mod bubble slide)

A: COL Schumitz: Expect all 6 current KPPs to move forward. 2 more KPPs will include one on energy efficiency and reliability.

25. Why is SRAT critical?

A: Tech Mgmt: The current Slat Armor is an interim solution that has limited effectiveness against some RPGs. The Stryker Reactive Armor Tiles (SRAT) will provide more effectiveness and greater protection against RPGs.

A: COL Schumitz: RPG threat requirement. Slat is an interim solution. SRAT enhances survivability.
A: LTC Lamb: SRAT 2 and Independent color camera kit. Start with core enablers then capabilities will be added [per S-Mod bubble slide].

26. Is commonality across all Army vehicles or just for the Stryker?

A: Jeff Magner- Commonality is king between Stryker variants. Commonality between the Stryker FOV, with other systems within the brigade, with other systems within the Army, with other systems in DOD, with items in the DLA system, and with items in the GSA system, is significant. Commonality is more than just parts as it affects training,

tools, skills, MOS POIs, and other aspects of supportability. Commonality contributes to the reduced log footprint and is beneficial.

A: LTC Lamb-SMOD holds the same philosophy; commonality is most important between variants and then GCS and finally the Army.

A: Ruthann Haider-However, important to point out that the reality of Operational Needs Statements generated by a Stryker Brigade deployed in combat will cause the C4ISR Division to look at COTS solutions that may not be common; so, the bottom line for C4ISR on commonality is the Warfighter's operational needs outweigh commonality when a Brigade is deployed in support of OIF or OEF. We will always look for solutions to these operational needs that are currently within the Army system in order to leverage the Army provided sustainment.

27. Program status update on the MEV?

A: Col. Schumitz- The army is considering M113 divestiture, MEV may replace the M113 but no decision has been made. Initial delivery to 3/3 complete, PM is awaiting feedback from the units. There is no growth requirement outs the 7 BDEs at this time 9 coming.

28. Are there plans to include Lighting Technologies (LED) in to Stryker Production moving forward? For example LED Forward Lighting Package such as the OIF Kits, Interior LED Lighting solutions, Exterior LED Composites and ELD Blackout Drive Lamps?

A: Tech Mgmt: We are using LED technology for the OIF Light kit and RVSS (Rear Tail light camera). We will be installing a LED tail light for the driver's side tail light with the RVSS. We have no requirement to change existing lights to LED technology. LED technology is an excellent opportunity to reduce the power draw of the vehicle. At the present time we are not funded to pursue further integration of this technology.

A: LTC Roberson; we will incorporate any LED capability that meets a validated requirement. Our focus will be on using an existing system common with other platforms as much as it meets the needs of the warfighter and can be properly integrated into the Stryker FOVs.